

## DEPTH COUNTER USED TO REDUCE NUMBER OF ITEMS TO CONSIDER FOR LOOP DETECTION IN A REFERENCE-COUNTING GARBAGE COLLECTOR

### ABSTRACT

A technique for improving the efficiency of a loop detecting, reference counting garbage collector in a computer system. A depth value is maintained for data objects in a memory resource to indicate a distance from a global, non-garbage data object. A reference count is also maintained based on a number of objects pointing to each object. A particular object is processed by the garbage collector when another object that previously pointed to the particular object no longer points to it, e.g., because the object was deleted or reset to point to another object, and when the depth value of the another object is one less than the depth value of the particular object. If the particular object is determined to be non-garbage, its depth value, and the depth values of other objects it points to or "roots" are reset. If the particular object is garbage, it is cleaned up.